

QRx SCALABLE PROTOTYPING PLATFORM

The QRx scalable platform offers a complete solution ready for rapid-prototyping, pre-series units and low-volume production for both automotive and industrial applications.

By featuring one SMARC processor module socket and two internal expansion boards, QRx makes it easy to add and evaluate new functionality.

The flexibility and modularity enables you to instantly start developing on production intent design, consequently shortening time to market and minimizing project risks.

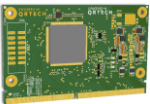
Key Features

- Designed for automotive and industrial applications
- High quality prototypes and pre-series units from start
- Comprehensive communication and I/O support
- Support for third party modules based on SMARC
- Expandable through hardware expansion boards
- Seamless migration from prototype to production hardware

Application areas

- Driver assistance system
- Body and chassis control
- Central electronic module
- Digital instrument clusters
- Electric power steering
- Telematics gateway

Related QRTECH products



Freescale MPC5744P
SMARC module



Automotive
gateway ECU

Technical data¹

System	1 x SMARC V1.0 CPU module socket 2 x Expansion board socket
Standard interface	1 x Ethernet (10/100/1000 Mbit/sec) 1 x USB host 1 x USB OTG 1 x USB Micro (USB to serial port) 1 x HDMI mini 1 x SD-card micro 4 x Status LED
Automotive interface	4 x Dual Wire CAN 2 x LIN (master/slave) 4 x Analog input ² , 0V – 5V 4 x Analog input ² , 0V – 30V 4 x Low digital output (1A, PWM) 4 x High digital output (1A, PWM)
Sensor peripherals	2 x 5V@50mA supply (switchable) 2 x DAC 0V ... 10V @ 10mA
Electrical interface	1 x 30pin JAE IL-AG5-30P-D3L2 1 x 22pin JAE IL-AG5-22P-D3L2
Operating conditions	Nominal power supply: 9V – 36V Nominal consumption: 200mA@12V
Environmental conditions	Temperature: -40°C ... 85°C Humidity: 0% ... 95% (no condensing) Enclosure protection: IP5K2
Standards	CE, ISO 16750, ISO 7637, RoHS, WEEE
Mechanical	Dimensions: 170mm x 105mm x 20mm Weight: 350g

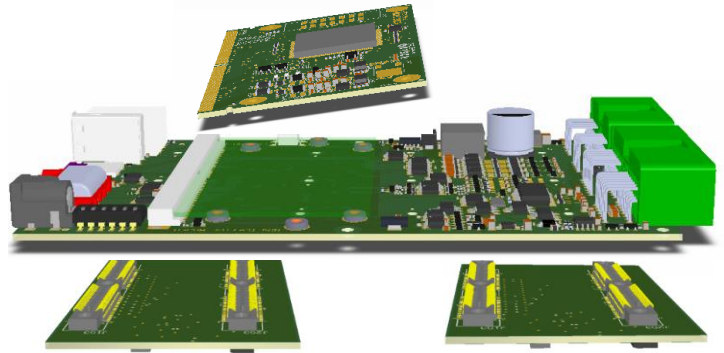
- ¹Available functionality is determined by CPU module.
- ²Analog input resolution is determined by CPU module.



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The scalable design delivers a future-proof rapid-prototyping platform supporting current and future processor architectures.

Already out-of-the-box the QRx carrier board offers extensive I/O and communication support that in combination with the expandable design makes the platform suitable for any automotive application.



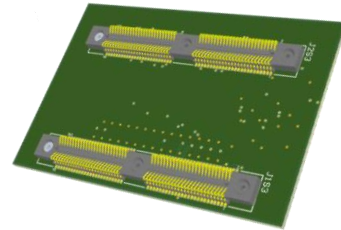
SMARC processor module

- Versatile small form factor computer module
- Robust, reliable and vibration resistant design
- Available modules from QRTECH; Freescale MPC5744p®
- Available modules from third parties; Intel Atom®, Freescale i.MX6®, NVIDIA Tegra®, Xilinx Zynq®



Expansion board

- Rapidly add complex functionality for evaluation and test
- Expansion board interface for automotive functions with dedicated external JAE connector
- Expansion board interface for special purpose functions LCD, WIFI, 3G, GPS etc.



Standard interface

- Designed to facilitate prototype test & evaluation
- High speed data acquisition and simulation through Ethernet and USB
- SD-card slot available for offline logging capability

Automotive interface

- Automotive graded for 12V/24V systems (ISO 16750-2)
- Highly reliable connectors based on JAE IL-AG5 series
- One connector is dedicated to internal expansion board eliminating enclosure modification



QRTECH services

- Rapid-prototyping development from specification or Simulink model to tested and functional prototypes
- From prototype to high volume series production, i.e. development of scaled down and cost efficient ECU
- Custom processor module design and manufacturing can be provided
- Custom expansion board design and manufacturing can be provided